

# AIRPOWER

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**I**N DEVELOPING the scenario for a NATO-Soviet conflict used in *Red Storm Rising*, Tom Clancy placed a great deal of emphasis on Soviet *maskirovka*.<sup>1</sup> *Maskirovka* is frequently mentioned in passing in many other novels, articles, and monographs dealing with the USSR. But there have been all too few attempts to describe *maskirovka* as an entity. That is the purpose of this article. *Maskirovka* is most simply defined as a set of processes designed to mislead, confuse, and interfere with accurate data collection regarding all

areas of Soviet plans, objectives, and strengths or weaknesses.

## Terminology

In studying the USSR, most Westerners are faced immediately with several problems. A primary example is that of attempting to understand the Soviet/Russian perspective on events. The Russian "mind-set" has been influenced by many factors of which Americans are generally unaware or the significance of which have been elusive.





For example, the term *American imperialistic interventionists* as used by the Soviets may be interpreted in the United States as a reference to our involvements in Cuba, the Philippines, or Vietnam. To the Soviets, it brings to mind the fact that during the Russian civil war, the United States, as well as Britain, France, and Japan, had military forces fighting against Bolshevik forces in Russia. This is one example of the difference in perspectives.

Another major problem is that Russian terms are not always easily translated into

English. *Maskirovka* is an excellent example. In US military terms, *maskirovka* is often referred to as "camouflage," "concealment," and "deception." Translators frequently use the term *camouflage*, and the use of this single English term inherently gives the reader a biased perception of what is actually presented in the Russian. For example, research in translated Russian works where the term *camouflage* has been used creates a view that is different from research where the term *concealment* has been selected. This is complicated by the Russian



# Soviet *Maskirovka*

CHARLES L. SMITH

word *kamufliazh*, which translates into English as camouflage. In the Russian context, the term refers to what in the West is classified as disruptive painting (fig. 1). Another example is the selection of decoys, dummies, or models for the Russian use of false objects. In English there are subtle differences between these terms.

*Maskirovka* is actually a very broad concept that encompasses many English terms. These include: *camouflage*, *concealment*, *deception*, *imitation*, *disinformation*, *secrecy*, *security*, *feints*, *diversions*, and *simulation*. While terms overlap to a great extent, a complication is that the Russian term is greater than the sum of these English terms. Thus, those in the West should attempt to grasp the entire concept rather than its components. *Maskirovka* is not a new concept in the USSR. Its roots can be traced to the Russian Imperial Army. Several Soviet authors trace it back to Dmitry Donskoy's placing a portion of his mounted forces in an adjacent forest at the Battle of Kulikovo Field in 1380. Seeing a smaller force than anticipated, the Tatars attacked, only to be suddenly overpowered by the concealed force.<sup>2</sup>

This concept, because of the Soviet "mind-set," permeates the entire nation. It is practiced throughout Soviet society and is not just a military term. It is a part of published Soviet data and figures as they relate to the economy, agricultural, or industrial production. An example of this, which pertains to both industry and the military, occurred in the period before World War II and at the onset of Operation Barbarossa. The USSR had purchased 100-mm artillery pieces from Germany before the war, and German intelligence estimates of the capabilities of the Red Army were based in part on the use of these guns. Following their invasion in June 1941, the Germans were shocked to encounter much more powerful Soviet 130-mm artillery pieces. The USSR had purchased the German guns and scrapped them while producing their own guns at the same time—a classic instance of *maskirovka*.

## Implementation

Due to its complex nature, the concept of *maskirovka* is incompletely understood in the West. This article contains three simplified models to illustrate the concept by reflecting its implementation, organizational, and doctrinal-philosophical aspects. Obviously, these are not all-inclusive but rather provide a beginning framework for understanding. The implementation aspects include form, type, environment, and nature of activity (fig. 2). These factors have been subdivided into additional categories. Within the Soviet military, gaps in the implementation of *maskirovka* are considered a breach of security and are recognized as a threat to survival.

### Forms

The forms of *maskirovka*, as shown in figure 2, consist of concealment, imitation, simu-

We often translate the Russian term *maskirovka* as "camouflage." To the Soviet military person, the term means much more.

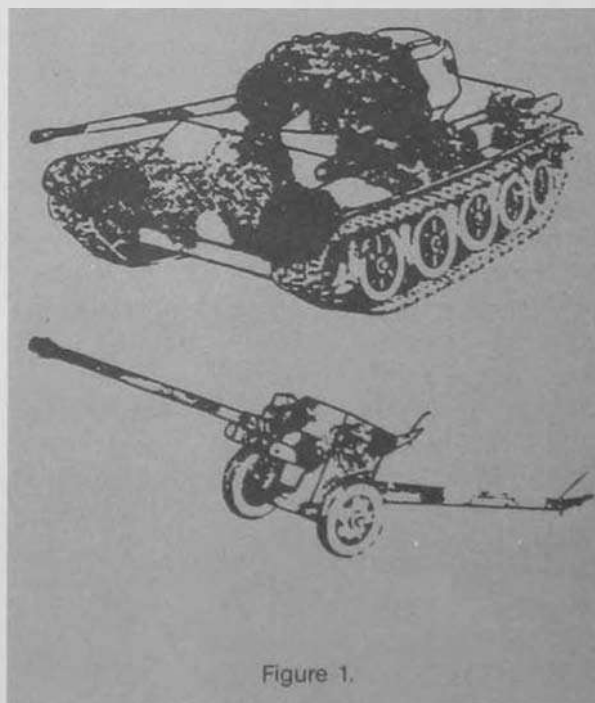


Figure 1.

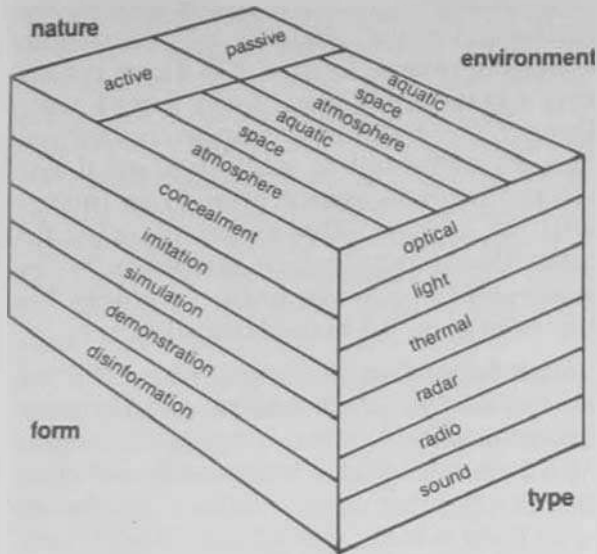


Figure 2.

Maskirovka implementation crosses the spectrum of techniques in various environments. Gaps in implementation are considered a breach of security by the Soviets.

Concealment through the use of netting and other techniques is used to reduce detection by intelligence sources. Properly done it can be a very effective technique.

lation, demonstrative actions, and disinformation. These may be employed singly but are most commonly conducted in conjunction with one another.

**Concealment.** This is one of the primary forms of maskirovka and involves a series of measures to eliminate or reduce possible detection of revealing signs of troops, equipment, plans, or production. Construction or modification of ships under overhead awnings is a form of concealment as is the use of smoke screens on the battlefield. In the Russian context, this form of maskirovka is similar to the English term *concealment*, plus *camouflage*. It involves the use of such things as nets, screens, and other devices (fig. 3). The construction of tanks and armored personnel carriers within automobile plants is another means of concealment.

**Imitation.** Imitation involves the creation of false objects that appear to be real. Use of collapsible and pneumatic mock-ups of military equipment on the battlefield is one kind of imitation. A number of Soviet articles on maskirovka cite the successful uses of these objects during the Great Patriotic War (1941–45).<sup>3</sup> On several occasions during the war, turrets from damaged tanks were placed on wooden frames to imitate

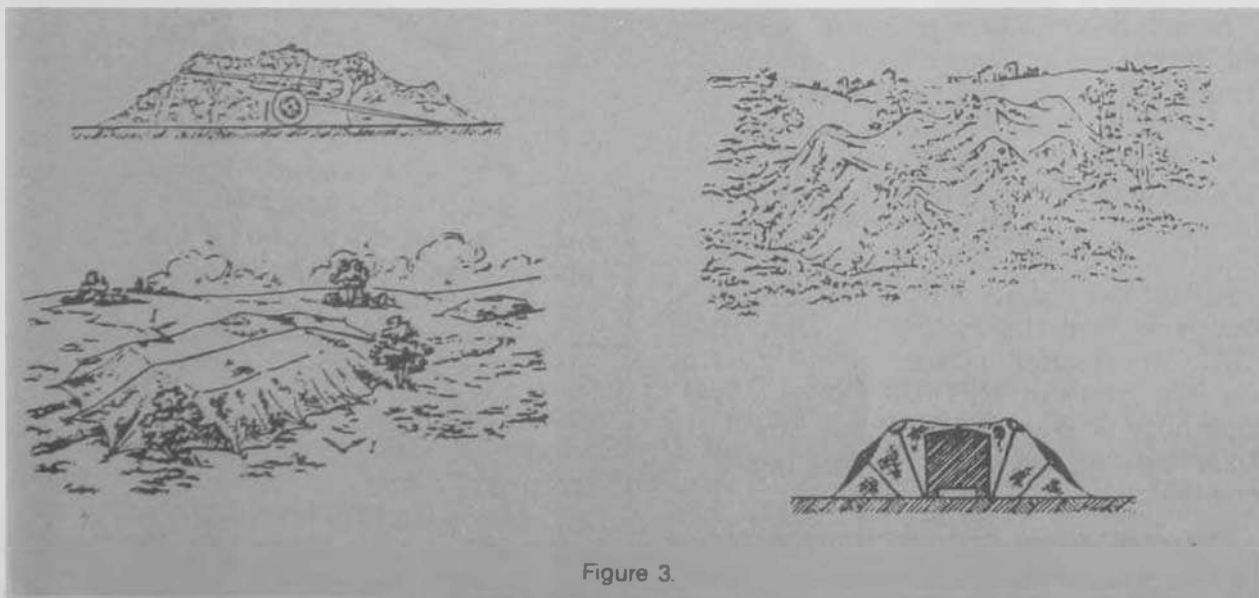


Figure 3.



Maskirovka Methods	Types of maskirovka					
	optical	light	thermal	radar	sound	radio
disruptive painting (kamuliazh)	X		X			
maskirovka nets	X	X	X	X		
decoys and dummies	X			X		
decoy devices	X	X	X	X	X	X
feigned activity	X	X	X	X	X	X
smoke	X	X	X			
blackouts and brownouts	X	X	X	X		

Figure 4.

The Soviets have analyzed the types of maskirovka and how each method affects mission concealment and deception. This thorough approach is much more a part of Soviet doctrine than its US counterpart.

actual tanks. This technique has also been demonstrated in Soviet exercises. During one exercise, a damaged bridge was repaired but still appeared damaged while a decoy bridge was erected upstream. The "enemy" made repeated strikes against the decoy while not bothering the repaired structure. Another example of imitation would be the construction of an airfield or factory that is not used.

**Simulation.** Closely related to imitation but of a more active nature is simulation. This involves creating the distinctive signs and activity near features or objects that concealment is designed to hide. Creation of a dummy anti-aircraft site using collapsible mock-ups is imitation; however, equipping the site with devices that emit noise and smoke, together with movement of troops around the facility, is simulation. This latter technique was widely used by the Red Army in the Great Patriotic War.<sup>4</sup> One false artillery position that simulated such activity was struck by 117 bombs in one day.

**Demonstrative Actions.** Demonstrative actions or feints serve to mislead an enemy

or opponent regarding plans or military operations. A Soviet offensive may begin with attacks in several locations to divert the enemy's attention to areas away from a main thrust.<sup>5</sup> The zones of demonstrative actions may be subjected to excessive aerial and ground reconnaissance prior to an intense artillery barrage. The actual point of the main thrust may not be subjected to the same level of activity until the enemy has begun to respond to the false attacks.

**Disinformation.** As practiced by the Soviets, disinformation has received a great deal of attention in recent years. Examples such as sending false letters and providing untrue information to Western journalists have been widely publicized. One department of the KGB, or Committee of State Security, deals with disinformation of this nature at many levels. Disinformation can take many approaches. When the Germans invaded the USSR in 1941, they were using Soviet-produced maps. These proved to be highly inaccurate, showing factories and towns where there were swamps or showing trails where major roads existed. The

A downward-pointing light is employed by Soviet soldiers to evade detection while allowing the individual to see at night.



Figure 5.

drive toward Murmansk was greatly slowed when the Germans realized that a road that they thought their tanks could use did not exist. This forced the vehicles to travel over rough, rocky terrain at much slower speeds.

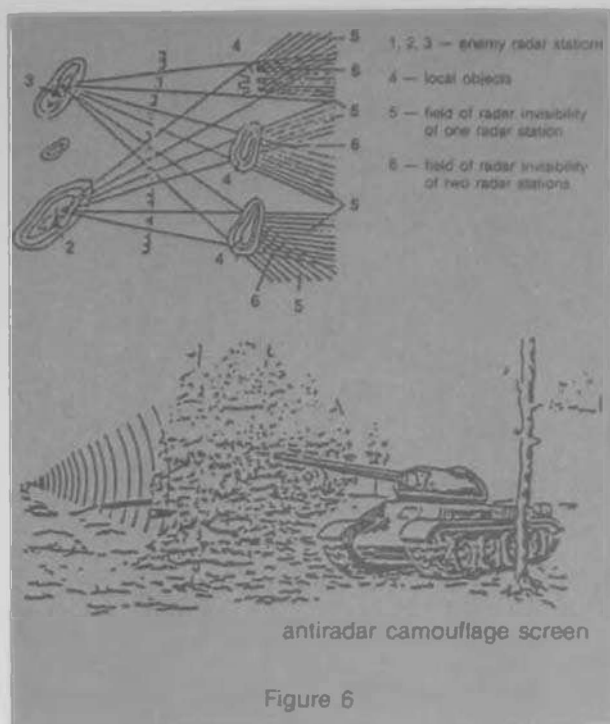
Disinformation by all military units regarding impending operations has also been widely noted. Prior to the Soviet amphibious assault at Novorossiysk on the Black Sea in September 1943, false orders were published stating that this would be a diversionary landing and that the actual main landing would occur two days later farther to the west. When the actual landing began, the Germans were waiting for the "real" assault.

### Types

Another means of approaching the concept of maskirovka is to analyze its various types (figs. 2 and 4). These have been well documented in Soviet military writings. Here again, these may be divided into several subcategories. Several of the types generally conform to bands of the electromagnetic spectrum and function against military reconnaissance systems such as aerial photography and radar or against target acquisition systems. Other types are designed to counter radio, acoustical, or other attempts to gather information. Specific resources or methods are designed for use in the various types of *maskirovka*.

The relationship between these factors was discussed in an article written by two East German officers. The article was later republished in *Voyennaya Mysl'*, the journal of the Soviet General Staff and most prestigious of all Soviet military journals.<sup>6</sup> Adding additional significance is the fact that the entry in the *Soviet Military Encyclopedia* on *maskirovka* is very similar to the earlier article.<sup>7</sup>

**Optical/Light.** *Maskirovka* can also be divided into a variety of types that cut across the forms previously described. For example, optical/light *maskirovka* is used to counter reconnaissance systems that involve photography as well as human obser-



Radar maskirovka. Both radar-absorbent and radar-reflecting techniques are used to misdirect enemy intelligence.

vation. It may employ a series of nets or screens, either artificial or natural, surrounding the sides and top of a complex or installation. Another form may simply be signs giving false identities to facilities. Also included in this type of *maskirovka* are the use of camouflage clothing, the utilization of terrain to mask movement of forces, and the use of smoke screens. The primary purpose of screens and nets is to alter the apparent shape of the object as well as its shadow. The Soviet definition of optical *maskirovka* includes the near or reflected infrared portion of the electromagnetic spectrum. Thus, activities include those designed to counter "camouflage-detecting films." Special paints are employed in the manufacture of screens and nets to present realistic imagery.<sup>8</sup> Blackouts and night-vision devices serve to ensure light *maskirovka*. One device is designed to constantly point downward, thereby allowing

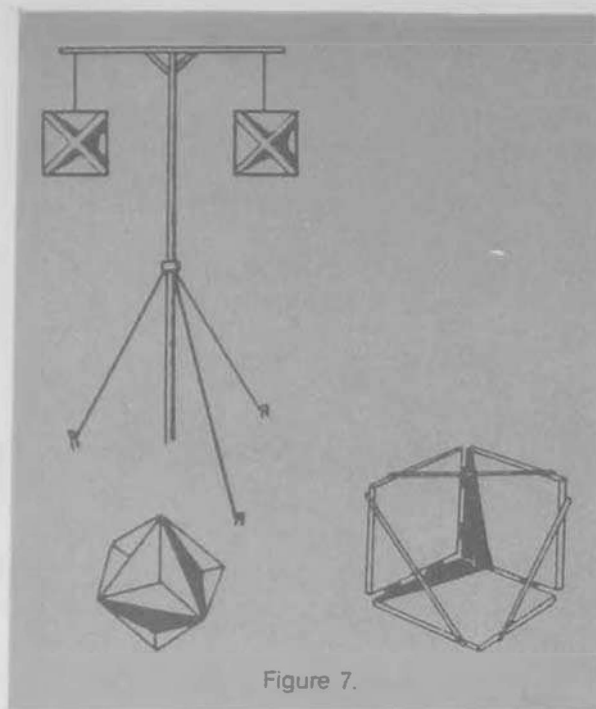


Figure 7.

Three different types of radar reflectors. These reflectors are designed to make it difficult to determine accurately the location or amount of activity in a given area. Each motorized rifle battalion carries 30 of the corner radar reflectors.

light to be applied where required without being detected (fig. 5).

Optical and light types of *maskirovka* may be employed to achieve several forms of *maskirovka*. The most obvious is the use of nets, screens, and blackouts to conceal items, while mock-ups and dummy lights serve as a form of imitation. In such instances, nets and screens that are badly in need of repair may be placed over mock-ups to indicate poorly executed *maskirovka*.<sup>9</sup> Construction of an apparently real runway complete with dummy aircraft at an airfield is another form of imitation. Movement of empty vehicles using their headlights along secondary roads at night or during the day with the goal of replicating a buildup of forces in an area is the application of light or optical means to achieve simulation or demonstration.

**Thermal.** Thermal *maskirovka* is em-

ployed to deny information to enemy reconnaissance and guidance systems that employ sensors in the thermal portion of the electromagnetic spectrum. Here also the method of employment varies with the form. There are two primary ways of employing thermal *maskirovka* to facilitate concealment. Both have the objective of reducing the thermal contrast between the object to be concealed and the background surrounding it. Special air- or water-cooling systems, insulation, and other methods may be used to reduce temperatures or dissipate heat. Thermal screens and special paints may also be employed. On one exercise, a field kitchen was located under tall coniferous trees and excess heat piped underground away from the site to other parts of the forest. This piping and the tall trees effectively dispersed the heat. A second method is to increase the temperature of the overall background. This may be accomplished through the use of heaters. Heaters may also be used to initiate and simulate activity in a different location. At the same time that the field kitchen was being concealed, a fire was placed on an iron plate under a canvas cover away from the kitchen.<sup>10</sup> This created a thermal replication of the kitchen. Reconnaissance or other thermal sensors would detect the simulated kitchen but not the actual one, thereby causing an enemy to make an invalid assumption.

**Radar.** Radar *maskirovka* employs several techniques to counter all forms of radar. Figure 6 shows two primary techniques for countering radar. One is to analyze topographic maps and relief models to determine areas of "radar shadow" or dead space where known ground-based radars cannot scan. Another technique to deceive ground-based radars is to place an object behind a net containing metallic or other radar-reflecting strips. The first technique involves the elimination or reduction of any radar return, while the second bombards the sensor with radar energy. Another means of accomplishing the first method is through the use of special coatings and may be considered in the design of weapon systems. In a



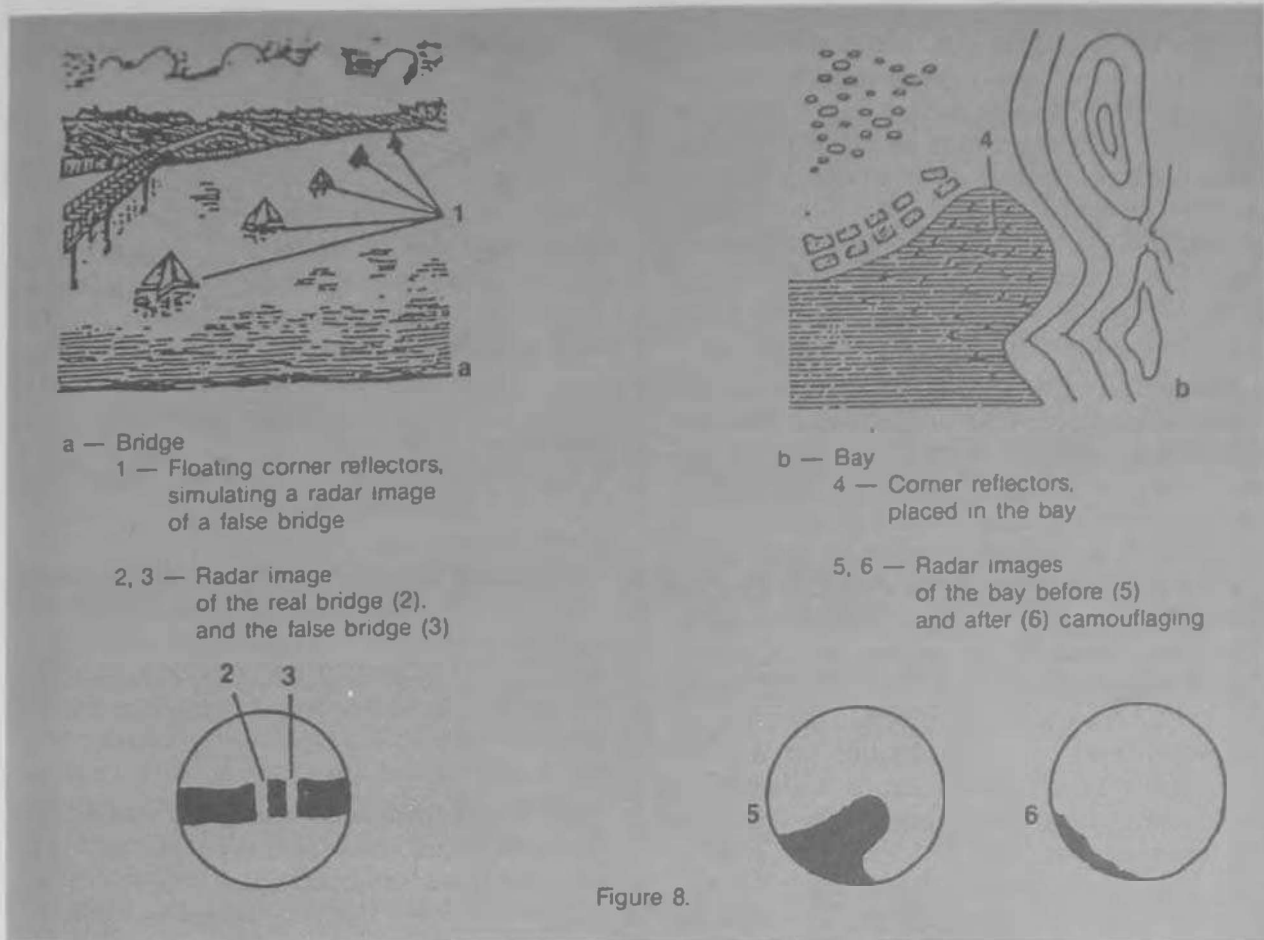


Figure 8.

Two examples of radar reflectors in use. On the left, radar reflectors are used to simulate a second bridge on the radar return. At right, corner reflectors are used to disguise the actual size of a bay of water.

1973 article, one Soviet naval author in discussing *maskirovka* of ships pointed out that right angles on ships create bright returns on radar scopes or imagery.<sup>11</sup> The Typhoon-class submarine, which appeared in 1983, has very few right angles on the superstructure, a form of stealth technology.

Radar reflectors are a passive means of jamming radar systems. These may be corner, pyramid, spherical, or dipole reflectors that are designed to reflect radar energy back to the sending radars. When suspended in pairs along a road or scattered in an area, corner reflectors create a bright return on a radar scope that masks any activity along the road or within the area (fig. 7).<sup>12</sup> The sensor will indicate that something is

present but will give no indication of its nature. This makes it difficult to accurately detect movement along the road or activity in the area, thus adding an element of confusion and possibly concealing any activities. Corner reflectors may be issued or produced in the field from wood and metallic foil. During the mid-1970s, each Soviet motor rifle battalion was provided 30 corner reflectors.

Radar reflectors may also be used for imitation and simulation. Corner reflectors placed inside or beside dummy tanks will imitate the radar image of a tank.<sup>13</sup> Radar reflectors may be placed on motorcycles that travel up and down roads to simulate heavy traffic. An article in the *Soviet Military En-*

*cyclopedia* by Maj Gen A. I. Palii, of the Engineer Troops, contains a discussion and sketches showing the use of radar reflectors to alter the landscape as it appears on radar (fig. 8).<sup>14</sup> Reflectors can be used to create false bridges as well as to make coves appear to be solid ground. One Soviet book points out the success of similar reflectors used by the Germans to deceive 100 American and British aircraft who dropped their bombs on a lake in Berlin.<sup>15</sup>

**Sound.** Complete silence is obviously a major means of sound *maskirovka*. Troops, equipment, and other facilities should operate as quietly as possible in combat to avoid detection. The reverse of this is employed for imitation simulation and demonstrative actions as well as for disinformation. During the preparations for the L'vov-Sandomierz offensive in 1944, Col Leonid Brezhnev, as political officer for the 18th Army, was responsible for creating the sounds of two tank armies on the left wing of the 1st Ukrainian Front. This was an area where there were very few troops. Using loudspeakers, the Soviets were able to convince the Germans that a major thrust was to come from this location. At least one German division was deployed from the region of the real Soviet attack to defend the left wing of the front from an anticipated attack by the false tank armies.<sup>16</sup>

**Radio/Radar.** Radios are both a blessing and a curse. They allow speedy communications but often reveal locations of facilities otherwise concealed. Analysis of the pattern of radio use may, for example, help identify command posts. One means of reducing this problem is to disperse radio antennas away from command posts, thereby focusing an enemy's attention on another area. Radios also serve as a means of simulation, demonstration, and disinformation. Apparent inadvertent transmissions may actually be designed to spread false information. A simulation such as the one Secretary Brezhnev was involved with required false radio transmissions to replicate the Soviet tank armies. In other instances, large

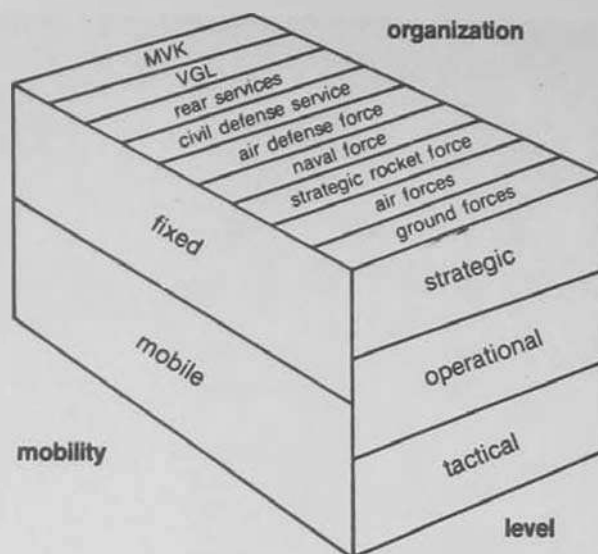


Figure 9.

The diagram above shows the organizational structure of *maskirovka* as well as the spectrum of organizations that are involved.

Soviet tank units were relocated while their command and other radios remained in the old positions and continued broadcasting.

#### **Environment and Activity**

*Maskirovka* may be conducted in any environment to deny information to sensors. Sound *maskirovka* onboard a submerged submarine is designed to counteract acoustical sensors within the aquatic environment. Regardless of the environment, the form and type of *maskirovka* may be either active or passive. While most aspects of *maskirovka* involve some form of activity, others (such as silence) require none. The best example of active and passive actions is in an area of radar. The use of special radar-reflecting or absorbing netting and possibly radar reflectors tied down in an area is considered passive. Moving reflectors up and down a road is considered active, as is jamming an enemy's radar systems using false transmissions or dispersing radar-reflecting chaff. In the Soviet military, these active methods are part of normal *maskirovka*.

while in the West they are considered radio electronic warfare.

## Organization

Maskirovka has many organizational factors. The second of the three simplistic models shows the organizational factors (fig. 9). These factors include the level of implementation, mobility, and the branch of the armed forces involved.

### Level

Maskirovka is employed at all levels of military activity. At the tactical level, it often involves more concealment and imitation than simulation and disinformation. Here the primary objective is to make the location of small units difficult to determine. Operational as well as strategic maskirovka are based on successful tactical efforts. At these higher levels, larger units and greater areas are involved with greater emphasis on simulation, demonstrative actions, and disinformation.

### Mobility

The mobile or fixed nature of an object has a great bearing on the implementation aspects of maskirovka. In this regard, items such as tanks or field artillery frequently assume both modes. Thus, while in a fixed mode, a tank may be masked by netting. While it is in motion, such netting is uncalled for and other means of concealment are required.

### Branch of Armed Forces

The aspects already described, as well as the doctrinal inputs detailed below, apply to all branches or services of the Soviet armed forces. Aspects that apply to small units in the Ground Forces apply also to naval troops, KGB border guards, troops of the Ministry of Internal Affairs (MVD), and to troops of the other forces and services. Maskirovka at the operational level would in-

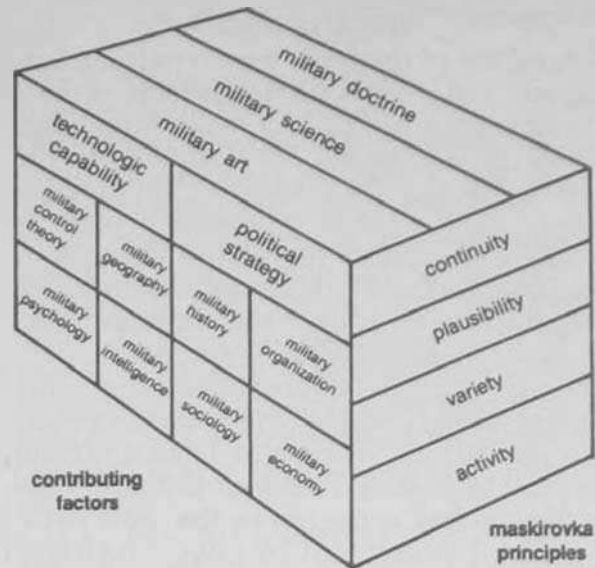


Figure 10.

Maskirovka principles and contributing factors. Soviet maskirovka is the product of a carefully designed hierarchy of military thought.

volve close coordination between the five branches and Rear Services of the Minister of Defense's forces, as well as with the KGB's border guards and MVD troops. This is especially true at the front and theater of military operations (TVD) levels during wartime when these may be under one commander.

## Doctrine

All Soviet military operations are based on a carefully defined and structured hierarchy of military thought (fig. 10). These include military doctrine, science, and art, as well as numerous contributing factors.

Political strategy, technical capabilities, and many other factors have an impact on Soviet military doctrine, science, and art. An analysis of these factors is beyond the scope of this article; however, in the realm of maskirovka they all have led to the formulation of several principles.



### Principles

Regardless of the type, form, environment, nature, and organizational aspects, *maskirovka* is governed by four major principles. These principles are not described in the *Soviet Military Encyclopedia*, but they are discussed by military personnel both in books and articles. In spite of changes in technology, these principles remain valid, and the Soviets believe they must be practiced for *maskirovka* to be successful. Several principles have subelements that some Soviet military authors may regard as separate guidelines. They also have a certain amount of overlap. The four principles described below appear to be the most pertinent and consistent in Soviet military writings. These are activity, plausibility, variety, and continuity.

**Activity.** The principle of activity or aggressiveness stresses that all *maskirovka* must be persistent to give the enemy a false idea. The objective is to cause the enemy to make incorrect estimates of a situation.<sup>17</sup> Once a form or type of *maskirovka* has been implemented, it may become necessary to change it. For example, after an airfield has been attacked and has once again become operational after repairs, *maskirovka* efforts might be made to make it appear still out of commission and abandoned.

**Plausibility.** All efforts at *maskirovka* must be plausible. This is an especially important principle. Regardless of the type or form of *maskirovka* involved, the enemy must believe what he sees is real when in fact it is not.<sup>18</sup> At the tactical level, slit trenches must not be cut across natural contours but should blend with the terrain. *Maskirovka* that does not blend into the background will, in effect, pinpoint the location of the object. Placing a dark-colored net over a tank in an area of sand and light brush is obviously less plausible than using a matted sand-colored net. False targets should be located in sites where their presence would be expected; that is, a radar site would not normally be located in a deep depression.

**Variety.** Repetitious patterns of *maskirovka* must be avoided and variety employed. This is the principle of variety. Some German sources indicate that Soviet efforts at *maskirovka* during the Second World War were predictable. As German forces moved into new positions, they scanned the areas held by the Red Army in an attempt to locate specific positions such as command posts. They would suspect certain locations as the site of these positions based upon their past experiences. In many instances, such suspicions were confirmed. Several authors have pointed out that the Soviets tend to follow the "approved" solution to many matters, including locations for units and command functions. Soviet attempts at disinformation also were said to follow a pattern that, once recognized, revealed the *maskirovka* effort.

**Continuity.** The final principle is that of continuity both in peace as well as in war. It is difficult to successfully employ *maskirovka* on a new factory or installation after all construction has been completed. *Maskirovka* must be part of all plans and must be continued throughout an operation. An extremely significant example of a violation of this principle occurred in 1962 and led to the Cuban missile crisis. *Maskirovka* efforts were employed from the beginning of the operation to conceal deployment of missiles to Cuba. However, no efforts at concealment were made during the construction of launch sites. US reconnaissance assets were able to detect these sites based upon their pattern.

### Research and Writings

*Maskirovka* has been the subject of many articles in Soviet military periodicals and books. Several of these are accounts of research either within the USSR or from foreign sources. Obviously, because of the nature of the topic, many specifics are not presented in their analyses. Soviet articles "based on foreign sources" often serve as a means of discussing or presenting techniques and technologies that the Soviet mil-

itary believes would add to its maskirovka efforts. Because of this, articles and descriptions of this type should be carefully scrutinized. While the implications have not been ascertained, a 1969 Soviet book described in detail several means of reducing radar returns. Items analyzed included West German ceramic plates that dispersed radar energy, a West German three-layer absorbing material, and a corrugated-surface material designed in Britain that also absorbed radar energy.<sup>19</sup>

The same purpose is served by articles that cite examples of "good" or "bad" maskirovka from the Great Patriotic War. To a large extent, these reviews of military history provide insights into current views and ongoing debates. Soviet maskirovka has also been studied in the West to a limited extent. One problem has been that of scale. Research and articles have included in-depth studies of smaller components such as smoke screens without analyzing how these mesh into the entire concept. Other approaches have been to discuss several main components without examples of implementation. Although these have added greatly to the understanding of maskirovka, additional studies and analysis are needed.

## Conclusions

This article began by citing examples of maskirovka in the novel *Red Storm Rising*. The author of that book presents numerous examples of military maskirovka, including the use of noise decoys by submarines, dispersal of radio antennas and transmitters around command posts, and stealth aircraft. The article then focused on the Soviet armed forces and used three simplified models as a means of addressing the topic. As indicated in the article, maskirovka is a complex and well-structured Russian concept that is also well funded and carefully planned.

In spite of the numerous military examples included, the book *Red Storm Rising* uses maskirovka primarily to describe activities in the political arena. Some of the aspects described in the book differ from those employed by the military, but other factors are essentially the same. Disinformation rather than concealment may become the primary form, but the four principles still are of utmost significance.

Because of this, maskirovka must be understood in its broadest context by all who deal with the USSR. □

## Notes

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# net assessment

**Debating Counterforce: A Conventional Approach in a Nuclear Age** by Charles-Philippe David. Boulder, Colorado 80301: Westview Press Inc., 1987, 260 pages, \$27.50.

Charles-Philippe David, the son of Senator Paul David of Canada, earned his doctorate from Princeton and is currently a Canadian defense specialist at the College Militaire Royal de Saint-Jean, Quebec. In *Debating Counterforce*, he critically challenges the American reader to examine and reevaluate the question that has been at the core of US defense policy since 6 August 1945: "What is the proper role for nuclear weapons to play in today's world?"

For David the answer to this question is limited to deterrence and, to him, the belief that nuclear weapons can be incorporated into actual operational use is a chimera. Although his views are clearly at odds with Air Force doctrine, his treatment of the issues provides a thoughtful insight into the strategist's problem of reconciling Clausewitz with the atom.

David argues that deterrence has been the product of a constantly developing and at times contradictory nuclear policy that is progressing toward ineffectiveness. The reason for this can be found in Einstein's famous quote:

The splitting of the atom has changed everything save our mode of thinking and thus we are drifting toward a catastrophe beyond comparison. We shall require a substantially new manner of thinking if mankind is to survive.

Although deeply critical of US policy, he does an admirable job of objectively outlining its development from 1946, when Bernard Brodie and William Borden published diametrically opposed theses, to today's debates on the Strategic Defense Initiative (SDI). However, when he explores the background of a given policy, the viewpoints of the "apocalyptic" (Brodie camp) and the "conventionalists" (Borden camp) are polarized into mutually exclusive extremes that defy compromise. If there is a central weakness to his work it is this "yin-and-yang" approach, which consistently casts the conventionalists as a dark force that ignores the warnings of the apocalyptic. This impression possibly could have been avoided had the author more fully de-

veloped the basic concerns of the apocalyptic. Too often, the reader is given a thorough rationale for a conventional position that is then countered with a weakly presented apocalyptic view.

The single point of agreement between the two camps is shown to be the belief that deterrence must be the central goal. This agreement extends to the realization that absolute deterrence cannot be guaranteed. At this point the conventionalists and apocalyptic part company. The conventionalists support developing plans for limiting nuclear war if deterrence fails, while the apocalyptic maintain that nuclear war will be so horrible that it is meaningless to plan in terms of its occurrence. Again what is lacking is a development of the apocalyptic rationale. Had the author addressed these issues more fully the reader would be better able to appreciate the nuances of this complicated debate.

The author's arguments are distractingly dependent on numerous references and quotes from the exceptional bibliography. Because of this, *Debating Counterforce* does not stand alone as a reference work. What it does accomplish very well is to draw attention to the conflict between the two extremes of nuclear strategic thought. As a minimum, the reader should be committed to exploring Brodie, Kahn, and Kissinger if the full value is to be drawn from David's first and hopefully not his last book.

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**Understanding War: History and Theory of Combat** by T. N. Dupuy. New York 10017: Paragon Books, 1987, 320 pages, \$24.95.

"Students of military art and military science have long sought fundamental laws or theories that would explain the interactions of military forces in combat and the outcomes of battles." (p. xxi) So reads the introduction to Col T. N. Dupuy's *Understanding War*. A statement on the dust jacket calls this book "a sustained and rigorously argued attempt to put forward a general



theory of military combat, one which will be valid across history and potent in its applications for strategies and tactics in military policy."

Colonel Dupuy reasons that there are "two basic ways to use military history. One is to read descriptive military history to obtain a general appreciation for past wars and famous leaders. The other is to use information and data from military history as the basis for historical analysis." (p. xxiii)

His historical analysis "seeks to bring to bear on present problems relevant lessons of the past." The military analyst "must develop combat hypotheses by mean [sic] of patterns discerned from studying large quantities of combat data." (p. xxiii)

Military leaders have always searched for guidelines, principles, or maxims to help win battles. *Understanding War* considers the concepts of Napoleon, Carl von Clausewitz, and Antoine Henri Jomini and relates them to the beginnings of today's concept of a theory of combat. Furthermore, the concepts of two British theorists, J. F. C. Fuller and Frederick W. Lanchester, are discussed. Both have had a profound impact on analytical military thinking.

Colonel Dupuy discusses Clausewitz's *On War* and shows how Clausewitz attempted to quantify his military thinking. What could a quantifiable theory of combat do for us? Dupuy says it could:

- Provide a framework for assuring consistency in the modeling or simulation of combat.
- Help analysts to understand human behavior in combat.
- Provide specific means for dealing with the influence of behavioral factors, such as suppressive fire.
- Provide a yardstick for the evaluation of military judgment, to the benefit of both military and civilian decisionmakers.

*Understanding War* is tightly focused toward a theory of combat. Dupuy defines it as "the embodiment of a set of fundamental principles governing or explaining military combat, whose purpose is to provide a basis for the formulation of doctrine and to assist military commanders and planners to engage successfully in combat at any level." (p. 79)

He shows how Clausewitz's Law of Numbers can be written as combat power (P) equals the number of troops (N) times the variable circum-

stances affecting a force in battle (V) times the quality of force (Q). Therefore,  $P = NVQ$ . Dupuy transforms this equation into his combat power formula, which is the basic equation of his Quantified Judgment Model (QJM). The variable (N) transforms into force strength (e.g., weapon strength). The variable (V) becomes the environmental and operational force effects (e.g., terrain, weather, season, force posture, mobility, fatigue, morale, training, etc.). Finally, the variable (Q) becomes the relative combat effectiveness of troops (e.g., the factor explaining the difference between theoretical outcome and actual outcome ratios).

The application of the QJM is illustrated in the 1940 Flanders campaign between the Germans and the French and British. From this engagement, Dupuy goes on to illustrate other principles from his combat model:

- Relative combat effectiveness
- Diminishing returns in combat
- Movement and rates of advance
- Attrition in combat
- Friction in combat
- Technology and human behavior in combat

*Understanding War* takes all these inputs and uses practical application of the QJM to an analysis of recent events, including the 1982 war in Lebanon.

My only criticism of this book is the lack of explanation about the methodology used. Without this information, one must question the validity of the models presented.

Gen John R. Galvin, presently serving as SAC-EUR/USCINCEUR says in the book's Foreword that "the key question is, how much will battle prediction lend itself to mathematical analysis and how much will always be dependent on subjective judgment?" The search for such a formula is very complex. This book deserves serious attention because it provides a number of important analytical propositions.

If the old adage "know your enemy" has any validity or truth, then the Soviets' theory and use of their Correlation of Forces may be years ahead of us in the arena of a practical mathematical model of combat. We need to explore Colonel Dupuy's theories and look at their ability to assist in our nation's defense. We can all profit by reading this, his latest book.

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**March to Armageddon: The United States and the Nuclear Arms Race, 1939 to the Present** by Ronald E. Powaski. New York 10016: Oxford University Press, 1987, 300 pages, \$19.95.

The recent events involving a possible treaty eliminating Soviet and American intermediate-range nuclear missiles has again brought the nuclear arms race into the public forum. Yet, tracing the debate over American nuclear policy back to the dawn of the nuclear age can be frustrating. It has been veiled in secrecy from the beginning, and public view has been afforded only when a crisis or the search for political advantage forces the issue into the spotlight. With the nuclear weapons debate becoming a prominent issue in the American political scene of the eighties, historians are again examining the complicated process that gave shape to America's nuclear policy.

In *March to Armageddon*, Ronald Powaski attempts to assemble a one-volume history of the nuclear arms race from 1939 to the present. Not unexpectedly, considering the dearth of information about Soviet nuclear policy decisions, the book concentrates almost exclusively on how American policy evolved and the role this policy played in the arms race. In particular, Powaski is concerned with the question, why has every American president since Truman promised to curb the growing number of nuclear weapons, but none have done so? The answer, he maintains, lies in America's reliance on power politics, congressional refusal to curb nuclear weapons procurement, a history of public indifference to nuclear issues, and the tremendous influence of the military-industrial complex.

Relying primarily on secondary sources, Powaski chronologically examines America's growing nuclear capability and the often haphazard development of policy concerning its possible use. He offers no startling new insights into the A-bomb's development, but vociferously denounces Brig Gen Leslie Groves's "compartmentalization" security system as detrimental to any debate (in or out of government) concerning the development and use of nuclear weapons. In detailing Truman's decision to drop the bomb on Japan, Powaski determines that the United States was negligent in not seeking out all possible avenues of negotiation, being instead more concerned with demonstrating our new-found military might to the Soviet Union. Moving into the fifties, *March to Armageddon* focuses on how interservice rivalry, Eisenhower's

New Look defense policy, the growing military-industrial complex, and the bomber/missile gap hysteria fueled America's increasing nuclear buildup. Kennedy appears as the belligerent cold warrior, determined to find "greatness" in confronting the Soviet Union. Covering the balance of the sixties and seventies is a cogent review of the tortured diplomatic and domestic political process that resulted in SALT I and the ABM Treaty. As the book moves into the eighties it assumes more the tone and structure of a debate over Reagan's nuclear policy.

In attempting to deal with this complicated subject over a period approaching half a century, the book is very ambitious. It is this very ambitiousness that leads to some problems. Though Powaski does an excellent job creating an effective and thorough chronology, each area receives an extremely abbreviated treatment. This treatment is most often in the form of a short narrative that includes a synthesis of what other commentators have concluded about the described event or period. Unless you are familiar with a particular area, you are clearly at the author's mercy for the background and applicable arguments, and though appearing objective on the surface, Powaski's general thrust is revisionist. Sections often conclude with an argument or statement critical of American motives and actions. After discussing McNamara's decision to deploy the Minuteman I, Powaski concludes the section with an observation by I. F. Stone that implies that the decision resulted from the devious machinations within an insatiable military-industrial complex. In discussing Congress's role in policy development, *March to Armageddon* is distinctly critical in tone until the period in the eighties when objection to the Reagan's defense buildup and SDI program appear.

Despite its revisionist slant, the book does have merit. Powaski does an excellent job in examining the efforts by those opposed to American nuclear policy and the continuing arms race. This opposition existed from the very beginning of nuclear research but found a public voice beginning in the sixties. Those not familiar with the early efforts by Neils Bohr, Vannevar Bush, and others to create an international regulatory group will appreciate Powaski's discussion.

Despite some weaknesses in objectivity, *March to Armageddon* is a welcome addition to the literature on American nuclear policy. If read with the skepticism one should have when dealing with evidence about any emotionally charged topic, the exposure to different interpre-

tations will be valuable. With its thorough chronology and excellent endnotes, the book is even more valuable as a one-volume reference work on America's evolving nuclear policy.

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**The Other Side of Time** by Brendan Phibbs. Boston, Massachusetts 02108: Little, Brown and Company, 1987, 341 pages, \$17.95.

Dr Brendan Phibbs chronicles his World War II experiences as a combat command surgeon in an armored unit that spearheaded many attacks on the enemy. He treated casualties at the frontlines, often in the streets, in destroyed buildings, or in advancing halftracks. He did not make rounds in a rear-echelon hospital but huddled shoulder to shoulder with the men while they were fighting.

At the time Pearl Harbor was bombed and the United States entered the war, he was a physician halfway through a 12-month internship. Shortly thereafter he sought a commission in the Medical Corps of the US Army and received first lieutenant's bars. He served in combat in France and Germany with Combat Command B, 12th Armored Division, Seventh US Army, ending the war as a major watching concentration camp victims from Dachau die from hunger.

He has written this book not only as a skilled surgeon but as a humanitarian. With the aid of many notes taken during the war and a memory of war that still burns brightly 40 years later, he transfers to the reader images of men dead and dying. The use of technical details and medical terminology is deliberately limited. The writing style is informal and easy to read. There is a sprinkling of German words in the text that lend an additional flavor to particular scenes. There are a few scenes graphically depicted in the book that drive home the point that war is about killing:

We heard the next day how the line of tanks went slithering through the mud against the pillboxes, the young commander standing in the turret waving a map case because the radios weren't working. Orange light winked from behind concrete across the wide field and Mike's head was torn from his body; his trunk slid kicking into the turret spouting incredible volumes of blood. The carotid arteries and the jugulars were hosepipes. Crimson drenched the young soldier inside the tank, who screamed and screamed and pounded with his fists and pushed away at the windpipe and the twitching cervical

muscles and the scarlet geysers that filled the air where his colonel's head had been. (p. 81)

Doctor Phibbs tells of attempting to treat mortally wounded soldiers. He tells of men with limbs cruelly amputated by modern weaponry. He speaks of head wounds too severe to dress in gauze. Amid the gore, he delves into the personalities of the soldiers, contrasting (in his view) the ideas and opinions of the enlisted men versus those of the officer ranks. He points out the conflict that arises because of these differences.

The book has a constant negative undercurrent toward the officers who planned, ordered, and led men into battle. Obviously a humanitarian, the author did not adjust well to the fact that good men were being led into battle, and subsequent death, by less than perfect leaders who were more often promoted as a matter of expediency than because of qualifications. In World War II, the US Army did not have the personnel systems available to manage "whole-person" and "best-qualified" promotion systems. Nor did it have the time to do so during its rapid wartime expansion, a point the author seems to overlook.

A combat command surgeon can be likened to a flight surgeon assigned to a flying squadron medical element or to a commander of an air transportable hospital deployed to a tactical location. This surgeon stays up on the battle plans, the tactics to be used, the expected outcome, and the projected casualties. The surgeon also keeps abreast of the latest in warfare by associating with the officers and enlisted personnel in the unit. Doctor Phibb's book makes an excellent example of the surgeon's role in this capacity.

This book is not a source for information on logistics planning; therefore, medical planners must look elsewhere for references. Although it is of limited use historically, the book is entertaining and gives a frank view of war and suffering—useful for physicians and for other medical personnel.

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**Space and National Security** by Paul B. Stares. Washington, D.C. 20036: Brookings Institution Press, 1987, 219 pages, \$28.95 in hardback, \$10.95 in paperback.

Paul B. Stares states that the purpose of his book, *Space and National Security*, is to address whether the United States should proceed with the development of antisatellite (ASAT) weap-

ons. From the first page, the answer Stares offers on this proposition is no.

One hundred sixty-five pages offer background. Long chapters discuss the general operational characteristics of the Soviet and American military space programs, the contribution of military satellites to security and war-fighting capabilities, current threats to and countermeasures for US satellites, and arms control in space. These chapters appear to offer a thorough grounding in these subjects, including illustrative tables and charts and considerable technical information. Basically, these chapters live up to the nominal promise of the title and are written in a clear and highly readable style. The conclusions of these chapters are limited and carry appropriate caveats. Appendixes totaling 24 pages detail superpower space surveillance and survivability capabilities.

In his 7-page introduction and his 13-page summary and recommendations, Stares asserts that going ahead with the US ASAT program could have several negative consequences. These consequences are that America's space systems would be less secure in wartime, that the threat of their loss would inject dangerous uncertainties into each superpower's calculations during a severe crisis, and that the use of ASAT weapons could escalate a conflict in undesirable and uncontrollable ways.

Stares asserts that if the United States does not go ahead with its ASAT program, an arms control treaty could limit Soviet capabilities to a level less threatening to US interests than a Soviet-American ASAT future. Stares devotes two pages to evidencing this contention.

"With the appropriate precautions to increase the survivability and redundancy of the exposed satellites," Stares writes, "the risk from Soviet residual threats can be brought under control." He cites as proof for this statement the assertions by the program office of the Strategic Defense Initiative that space-based antimissile systems can be made survivable in an unconstrained ASAT future. "If the official SDI view is ill-founded or overly optimistic," Stares states, "then one must ask whether the United States would rather live with the lesser threat posed by Soviet residual ASAT systems." The implications here are that SDI does not intend to rely on space-to-space ASATs to defend its forces and that arms control verification would effectively constrain development and deployment of any new Soviet ASAT system.

As sole evidence that the United States can

verify compliance and thus effectively constrain residual and new Soviet ASAT systems, Stares quotes Maj Gen Thomas C. Brandt, deputy to the chief of staff, who said, "We have an excellent capability to monitor the employment of the (current) Soviet ASAT."

Stares also states in his summary and recommendations that SDI is a threat to meaningful ASAT limitations because the techniques for intercepting satellites and ballistic missiles are so similar. This expert opinion has received a degree of notoriety.

As a study in the history and technology of space and national security, Stares's book is an excellent addition to any military space library. However, it is not organized around its thesis. The support for that thesis is terse, and the support does not flow from the subject matter; rather, new evidence is introduced in the summary and recommendations. As a logical argument against the continuance of the US ASAT program, Stares's book is less than comprehensive.

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**Tactics: A Soviet View** by V. G. Reznichenko.  
Washington, D.C. 20402: US Government  
Printing Office, 1987, 246 pages, \$7.00.

The Soviet Military Thought series provides translations of published Soviet works on select military issues. Tactics is book No. 21 in the series. It is also an integrated sequel to several previous translations including *The Offensive*, *The Basic Principles of Operational Art and Tactics*, and *Fundamentals of Tactical Command and Control*. Written in 1984, this volume is a reflection of the growth in Soviet doctrine and military art and includes Soviet reflections on Afghanistan under the guise of "mountain" or "special condition" operations. The book also reflects a continuation of the traditional Soviet methodology for dealing with instruction of the Soviet officer corps step by step, principle by principle.

A complete description of the tactical battlefield establishes the foundation for the book. That description is of the modern combined arms battlefield that has evolved with current Soviet doctrine. The 40-page description is very comprehensive, yet concise, and is potentially the most valuable contribution to budding Soviet observers. Within that description are tactical zones similar to the zones of operation described



by Antoine Henri Jomini. Other concepts and methodology for warfighting at the tactical level strongly reflect Jomini's attempt to provide a "cookbook" for the conduct of war. It also reflects the general attempt by Soviets to use a scientific approach to war. The content of the book is an extension of the offensive nature of Marxist-Leninist doctrine and the lessons of the Great Patriotic War (World War II). As is common in Soviet military writing, that war is often cited as validation of a concept. The largest portion and greatest detail in the book focuses on the offensive nature of tactical operations. The emphasis on the offense is followed by defensive operations, and the book concludes with a discussion of logistics at the tactical level. In describing the defense, it emphasizes a defense that exists to prepare for the offensive, a basic Clausewitzian view of the defense. The concepts of logistical support and combined arms movement, as well as movement along independent lines of operation toward the point of engagement, are also a reflection of the principles of Jomini.

While the book focuses on the offense, defense, and logistics, its emphasis on combined arms warfare provides cohesiveness. The book explains tactical operations in the context of operational art and strategy in a combined arms environment. Consequently, other theories of Carl von Clausewitz surface, including a focus on the center of gravity via the main axis of attack. That position also places potentially independent tactics in the broader perspective of an integrated echeloned offensive at the grand tactical level, reflecting Sir B. H. Liddell Hart's expanding torrent. The book repeatedly cites the Great Patriotic War as an example of tactical principles, but it also presents the impacts of newer conflicts.

Afghanistan has placed new emphasis on mountain operations and the new applications of existing systems. "Valleys (ravines) are entered only after the subunits have captured the adjacent heights. Strikes against enemy forces putting up resistance in valleys (ravines) are carried out by fire support helicopters, artillery, and mortars." (p. 121) In addition, the Soviets describe the ease and strength of defensive operations in mountainous terrain.

The book is somewhat simplistic and discontinuous at face value, but when considered in the context of the Soviet military series, it completes the spectrum of conflict from strategy through operational art or grand tactics to tactics. An initial reading of *Tactics* provides you with an en-

cyclopedia of concepts related to tactical operations in war. Only in the context of previous books in the series does it become a coherent text on the conduct of tactical operations. Read in this context, *Tactics* becomes a valuable reference tool for analyzing Soviet tactical ground operations.

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**The Impact of US Forces in Korea** by Lee Suk Bok. Washington, D.C. 20319: National Defense University Press, 1987, 101 pages, \$4.00.

This short book is not ordinary. It describes candidly an allied officer's views on how our military's presence has affected his people's lives and their living. It affords military readers a unique opportunity to "see ourselves as others see us" and to appreciate the consequence of uninformed decisions—how they affect our and our allies' "hearth and home" for a very long and costly time. The examples are strictly from the Korean experience, but the lessons are universal.

It begins with a glimpse at the historical and geopolitical situation that brought US forces to Korea following the defeat of Japan, ending its 35-year occupation of Korea. The book outlines and discusses the quality of several US decisions that have shaped the fate of Korea. For example, the choice of the 38th parallel as the dividing line between the US and Soviet occupation zones was made by two US Army staff officers, a colonel and a major. They worked at midnight with a 30-minute suspense, a small-scale wall map of the Far East, and vague guidelines from the State-War-Navy Coordinating Committee. In another decision, the US occupation forces initially chose to retain "despotic Japanese colonial" rulers in government positions when popular Korean leaders of the provisional government, previously exiled in China, were available. This decision may have cost an early and peaceful unification of the peninsula. Similarly, the US military government chose Koreans who were former members of the Japanese army to attend its English language school. Students from this school later formed the officer corps for the Republic of Korea (ROK) army. Korean officers loyal to the provisional government would not attend classes with "the enemy," and the ROK military lost much of its tradition, talent, and credibility. Later, disregarding intelligence information, Gen Douglas MacArthur recom-



mended withdrawal of most of the 45,000 US troops in Korea—setting the stage for North Korea's invasion and a bitter war. During the war, MacArthur, perhaps trying to atone, pursued the retreating North Koreans too far north, prompting China's entrance into the conflict. Later, the decision to accept Kaesong, located below the 38th parallel, as the location for armistice talks prevented UN forces from pushing the western front to the Yesong River area, where more defensible terrain was available. The line still stands just 25 miles north of Seoul, requiring a concentration of forces around the capital and leaving no ground to give or room for maneuver.

The book also describes the positive and negative effects rapid westernization has had on Korea. It covers the growing pains of a culture not fully prepared for democracy, the distress experienced by an economy grown dependent on US servicemen's dollars, and the social problems of unaccepted mixed-blood children and trans-cultural marriages.

While the book gives gracious credit to the United States for maintaining a balance of power in the world, deterring further war on the peninsula, and contributing to the ROK's economic strength, it also lays blame for many of Korea's problems at the feet of the United States. It claims that the presence of US forces in Korea has made ROK forces weak and dependent, while simultaneously claiming past US troop withdrawals have been premature. On one hand, it says US presence has stimulated a North Korean arms buildup and forced Soviet and Chinese support for the North. On the other hand, it reminds the United States of its responsibility to check Soviet expansionism in the Asia-Pacific region. The reader is left with a feeling that a superpower's allies may become like spoiled children—difficult to please. As in all things, it appears there are advantages and disadvantages in combined security.

These points aside, the lessons to be learned from this book should cause us some reflection. As the author puts it, "Americans do not often put themselves in Koreans' shoes. The ability to do this occasionally is very important in working effectively with Koreans, and it reduces the chances of friction or misunderstandings." (p. 75) We would do well to apply this prescription in our relations worldwide.

Col Lee Suk Bok is an ROK army officer whose entire life has been affected by the impact of US forces in his homeland. He wrote this book while attending the National Defense University as a

member of its first class of international fellows. His writing style is obviously affected by the disadvantage of writing in a language other than his native tongue. However, the points he makes and the insights he gives are well worth accommodating his walk in our linguistic shoes.

This is an important book for those who work with or make decisions concerning our allies—Korean or otherwise.

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**Wilbur and Orville: A Biography of the Wright Brothers** by Fred Howard. New York 10022: Alfred A. Knopf, 1987. 530 pages, \$24.95 in hardback.

Larger-than-life heroes all too often become lost in myth, fable, and deification. *Wilbur and Orville*, Fred Howard's new biography about the Wright brothers, not only humanizes the fathers of aviation but shows once more that genius is 90 percent hard work. In tracing the Wrights' path toward immortality, Howard details the brothers' total commitment to controlled flight. While the Kitty Hawk story has been often told, rarely has it been developed with such a smooth mixture of technical data and narrative prose. It is a fascinating success story that has more twists, villains, greed, altruism, and old-fashioned heroics than a made-for-TV movie. It was primarily the steadfast belief by the Wrights in their own genius that secured for them their rightful place in history as the "true" inventors of the airplane. Institutions (including the influential Smithsonian), lawyers, and powerful business interests spent years and fortunes trying to discredit the importance of their controlled flights in December 1903. What may surprise many aviation buffs is the amount of energy and invaluable time expended by the Wrights in legal fights over critical patents. Potentially their most productive years were tied up in court and in attempts to market their invention. It would be years following the initial flights at Kill Devil Hill before they could interest the US government in their flying machine. Howard's graphic portrayal of this struggle is so effective you sometimes feel as if you are in the Wright camp on North Carolina's outer bank. Despite the mosquitoes and foul December weather, you are as confident as the Dayton bicycle mechanics that man will fly.

Why were the Wrights successful when others with greater funds (Samuel Langley was given a

War Department grant of \$50,000) and more formal training were not? The reasons are several. First of all, the Wright brothers approached the problem of developing a flying machine systematically. They researched the available information on flying/gliding and then set out in a very pragmatic fashion to test their theories. Nothing was left to chance. Weather data, for example, was collected to find a test site. North Carolina was the closest place that met the requirements for constant winds during their bicycle shop's slow winter season. Through painful trial and error (both brothers would have brushes with death in flying accidents), the Wrights learned to fly. They built experimental gliders to test wing arrangements and control surfaces. When they were not flying, they were trying to "puzzle through" some temporary roadblock. It was in this arena that their mechanical pragmatism became the genius of invention.

Imagine, if you will, learning to fly an airplane at the same time you are inventing it! There were few, if any, precedents for what they were learning to do above the shifting sand dunes. When they tried too steep a turn or applied too much rudder, they crashed. In this fashion they developed the first rudimentary basics of flying. Very carefully and patiently they "invented" three-dimensional control of a flying machine. It was this system of wing warping, used in conjunction with a vertical rudder, that became the basis for the Wright patent for controlling flying machines. After their historic flight on 17 December 1903, the Wrights spent the next several years improving their invention and trying to market it in both the United States and Europe.

Perhaps the most valuable contribution that Howard has made in this volume is his careful pursuit of the Wright story following the first flight. The Wright brothers are pictured in full possession of pettiness, jealousy, and all the frailties of "normal" humans. In discussing their battles with other aviation pioneers, the author provides an excellent survey of the uncertainty they all faced. Fred Howard shows by comparing the work of these early aviators that it was clearly the Wright brothers who took the airplane from an experimental stage to a practical working machine. It is an exciting story well worth reading.

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**Military Objectives in Soviet Foreign Policy** by  
Michael MccGwire. Washington, D.C. 20036:

Brookings Institution Press, 1987, 586 pages,  
\$39.95 in hardback, \$18.95 in paperback.

This is undoubtedly one of the most provocative books ever written on the Soviet military. MccGwire argues the case for a strictly logical relationship between Soviet force development and Soviet strategy and doctrine. He relates the changes in force structure over the last 20 years beginning with the Soviet perception in December 1966 that escalation to an intercontinental nuclear exchange with the United States was no longer inevitable in the event of a war breaking out either at the theater or local level between the two states or their respective allies. Therefore, the strictly theater operation in Europe and Asia became a feasible proposition and one that required new trends in force structure, conventional and nuclear alike, to implement a strategy for fighting such wars while deterring the US strategic nuclear forces. MccGwire then proceeds to chart the ensuing 20-year development in terms of the logical requirements imposed by Soviet strategy for fighting and winning such a war while preventing the nuclear exchange.

Thus, we get a grand tour of the ensuing weapons programs of the Brezhnev period conceived of in the light of these strategic requirements. This is by no means the standard litany of Soviet weapons programs that they are simply stockpiling weapons for no conceivable strategic purpose. On the contrary, MccGwire seeks to underscore the shifting perspectives on war and strategy over this 20-year period, the most fruitful in Soviet strategic thought since 1937. His mastery of the data and of the evidence is unquestioned, as is his capacity for marshaling the data into a coherent argument with a real strategic point to it. Disdainful of the "bean-counting" fallacy that afflicts much of American thinking about the Soviet military, MccGwire offers instead a compelling and articulated alternative view of Soviet military developments.

However, such a view is not wholly to everyone's taste, including this reviewer's. It is difficult to see the relationship between these developments and Soviet foreign policy that is promised in the title. Indeed, such a relationship is absent. The political dimension is absent in regard to international relations of the USSR and to the internal politics of the military services with the possible exception of the debate between Adm S. G. Gorshkov and the leadership on the role of the Soviet navy, a debate that ultimately was won by Marshal N. V. Ogarkov and the army

against Gorshkov. Moreover, in his analysis of what the Soviets consider to be the real strategic requirements of their position, the author sometimes sounds remarkably like an apologist for them, which he surely is not. Just because the Soviets may assume they have these requirements does not confer upon them an *ex post facto* rationality or allay the fears of all their neighbors as to the purposes for which these enormous stocks may be used. The explanation offered by McCwire for the introduction of the SS-20 as merely a routine upgrading of the SS-4 and SS-5 surely is insufficient to ease European fears of Soviet motives. In the absence of a political dimension to the analysis of the years 1966–85, it becomes difficult to understand the enormous concern generated about where the Soviet leadership and the military were going. Regrettably, though McCwire also suggests, rightly I believe, a new reorientation of Soviet military strategy during 1983–85, the pressure of publication deadlines prevents him from discussing where Gorbachev's programs are leading the Soviet military. Of necessity the study ends with the year 1985. That is unfortunate in light of recent developments—Gorbachev's admission that there is a Soviet space defense system; possible changes in Soviet perspectives on local war as a result of Afghanistan; and the hue and cry about a new Soviet defense doctrine coupled with the search for usable military conventional power in the European theater, which explains the Soviet military's support for an intermediate-range nuclear force (INF) agreement. These criticisms notwithstanding, the book is must reading for all those who study Soviet military programs either out of obligation, or curiosity, or both. Even if we disagree with the author, we will not soon find a better exponent of his case.

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**Wars Without Splendor: The US Military and Low-Level Conflict** by Ernest Evans. Westport, Connecticut 06881: Greenwood Press, 1987, 160 pages, \$27.95.

This book attempts to place the US involvement with low-level conflict in historical and policy contexts, to define its parameters, and to suggest a revised military approach. It defines low-level conflict as having lower casualty rates over time than conventional conflict and as being either subnational or of an indirect or

proxy form when it involves two or more countries. The author's carrying argument is that the academic and governmental counterinsurgency "craze" of the early 1960s precipitated significant attitudinal and policy backlash as the Vietnam War "traumatized" the United States. But now circumstances permit needed enhancements or restructuring of military capability for low-intensity operations—counterinsurgency, aid to insurgents, counterterrorism, peacekeeping, and reversal of coups.

There is nothing new here that the public-domain literature of this decade (especially Sam Sarkesian, Bard O'Neill, and Stephen Sloan) has not covered much more effectively. The book surveys the literature on such subjects as hostage rescues and peacekeeping operations, but it totally lacks citations or references to US military doctrinal and training publications that are available to the public. The weaknesses of the work are due in good part to this omission. As examples, the author stumbles on airlift mobility (not considering the C-141 aircraft while dealing with the C-5 and C-130); the nature and doctrine of US Army Ranger forces; and the actual, dedicated force structure capabilities of the US Air Force in low-intensity operations.

The book has a logical enough plan, but its heavy use of repetition and enumeration in the first 130 pages of text make it tiring, and the book as a whole gives the impression of lectures and article segments more or less fitted together. The author's references/citations could lend support to this judgment. However, a list of sources, a bibliographic essay, and substantive chapter notes are helpful aids for the reader who might wish to inquire further on points.

The two-thirds portion of the book that defines and evaluates the problem is better than the remainder, which offers what appears to be a hurried and very superficial policy/structural remedy. In the former, the author does better with peacekeeping and terrorism than with counterinsurgency or "aiding insurgents," where he never really dissects or defines these complex and controversial doctrines. As for the latter part of the book, he simply does not have the defense establishment or legislative references, operational concept familiarity, or enough pages to do more than sweep a large hand across a small map. For example, his repeated use of the term *covert* and the total absence of *clandestine* reveals an unfamiliarity with the important legal and operational differences between plausible denial of sponsorship and the

undetected, surprise conduct of small military operations. This is more troublesome as the author apparently believes that the Green Berets were almost exclusively directed by the CIA during their Vietnam War operations. To hold this out to readers without any mention of the Military Assistance Command Studies and Observation Group (MACSOG) and its geographic subcommands, suggests secondhand information or poor advice from interviewees. Finally, the author never uses the term *special operations forces* (SOF), which includes Rangers, Army Special Forces (Green Berets), and Navy SEALs, whom he considers in the book. But the term also includes psychological operations battalions, US Air Force SOF (fixed-wing and helicopter insertion, extraction, resupply, and fire-support aircraft; combat controllers; etc.), and civil affairs units, none of which he mentions. This calls into question his sketchy capability-restructuring advice. According to the briefly stated credentials of the author, he is perhaps out of his depth here, although he has presented an orderly low-level conflict overview that is suitable for a nonexpert civilian reader. To a military reader I would suggest a quick reading of Part I and the bibliography but no more.

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**To Chain the Dog of War: The War Power of Congress in History and War** by Francis D. Wormuth and Edwin B. Firmage. Dallas, Texas 75275: Southern Methodist University Press, 1987, 360 pages, \$27.50.

In this scholarly and exhaustive legal study, the authors examine the power to initiate war in American constitutional law and the history of the uses of that power. In either case, Wormuth and Firmage are no friends of the "imperial presidency." Yes, the authors concede, the Constitution does direct the legislative and the executive branches to share power in conducting foreign policy. But when it comes to war, Wormuth and Firmage insist the office of the president has never carried the power of war and peace. Instead, the Constitution assigns the power to initiate war solely to Congress. The president, as commander in chief, performs vital functions in conducting war, but the "composition, structure, use, and actions of the armed forces are entirely determined by acts of Congress." The only exception to this exclusive

power to initiate war is the presidential choice to use military force to repel a sudden attack on the United States. Wormuth and Firmage argue that the framers of the Constitution intentionally gave Congress the war power as a check against the impulsive use of military force by the executive branch. The authors claim this exclusive congressional power to initiate war was one of the wisest of many checks and balances built into our Constitution, but they also admit this division of power has not prevented presidents from committing acts of war without congressional authorization.

Wormuth and Firmage particularly deplore the recent attempts by "controversialists" to strip the legal authority to initiate war away from Congress and give it to the president. The authors argue that Congress has aided and abetted this revisionism by illegally bargaining away its rightful control of the war clause of the Constitution. As a result, presidents since Franklin D. Roosevelt have systematically invaded the legislative power of Congress to declare war and have tried to exercise unilateral war powers without the concurrence of Congress. The consequence, according to Wormuth and Firmage, is that presidential conduct in the Cuban missile crisis, Vietnam, El Salvador, Nicaragua, Iran, and Lebanon has been, to one degree or another, illegal.

Wormuth and Firmage's remedy is for Congress to take back what it has unconstitutionally given away. In order of severity, the authors suggest that Congress use its control over the budget, the power of advice and consent, "sense of Congress" resolutions and formal censures, the legislative veto, legal action through the judicial system, and impeachment as ways to correct the imbalance of power that exists. These corrections are necessary, according to the authors, because the War Powers Resolution of 1973 is not a complete remedy for the present imbalance. Wormuth and Firmage argue that section 8 of the resolution gives the president a "blank check" to engage in acts of war if he has advance authorization from Congress. The authors firmly point out that "only Congress may declare war, and it may declare only present wars, not future wars." Since you cannot be in a future state of war, Wormuth and Firmage see section 8 as yet another unconstitutional delegation of congressional war power to the president.

Finally, the authors believe that the Whiggish bias against executive power that the framers wove into the Constitution is relevant and prac-



tical today. Wormuth and Firmage believe the nature of war in the nuclear age does not make deliberation and debate an anachronistic luxury. If anything, they argue a nuclear world demands that "collective conscience, rather than individual whim, must prevail." Instead of having an unfettered president, the authors argue deliberation and debate are essential before we take those first steps toward a nuclear war that, once taken, may not be retraceable. To Wormuth and Firmage, speed and efficiency are the ends of a totalitarian state, and not those of a republic dedicated to liberty.

This is a thoughtful and erudite work. One sees, however, an implicit political vision behind the call for strict presidential compliance with the Constitution. The authors share the traditional American view of war as a temporary aberration from the status quo. This nostalgic attitude does not jibe with a world where hostile states use war, across its broad spectrum, as a common instrument of policy and not as an instrument of last resort. A system of deliberately awkward consensus building would encourage American isolationism (an impulse that has hardly died) and would curtail the active role of the United States as the bulwark against dictatorships of the Left. Given the executive branch's recent illegalities, the authors would probably argue that in either case it is all for the best.

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**Makers of the United States Air Force** edited by John L. Frisbee. Washington, D.C. 20402: Office of Air Force History, 1987. 327 pages, \$13.00.

*Makers of the United States Air Force* is a collection of 12 biographical essays of men who made major contributions to the US Air Force but whose names and contributions are not well known. In his "Introduction: Men with a Mission," editor John Frisbee explains that Mitchell, Arnold, Spaatz, and LeMay were deliberately left off the list of 70 from which these 12 were chosen. Emphasizing their personal impact on the evolution of the Air Force, the careers of these 12—Benjamin Foulois, Frank Andrews, Harold George, Hugh Knerr, George Kenney, William Kepner, Elwood Quesada, Hoyt Vandenberg, Benjamin O. Davis, Jr., Nathan Twining, Bernard Schriever, and Robinson Risner—are presented. These 12 provide a chronological cross section of

Air Force history from the 1910 experience of Benny Foulois with pilot training by correspondence to Robbie Risner's leadership as a fighter pilot and POW in the Vietnam War.

The strength of this work lies in the qualification of the individual authors. For those at all familiar with Air Force history, such names as DeWitt S. Copp, Haywood S. Hansell, and Noel F. Parrish are familiar. The individual chapters reflect the variety of authors, ranging from Jacob Neufield's highly analytical "Bernard A. Schriever: Challenging the Unknown," outlining Schriever's impact on Air Force research and development, to T. R. Milton's journalistic and adulatory "Robinson Risner: The Indispensable Ingredient," which recounts Risner's exploits in Vietnam. All of the chapters are worth reading.

Within the length restraints of these short biographies, there are issues one would like to see included that are omitted. John Schlight, in his chapter on Elwood Quesada, makes the important point that in the twenties and thirties "Air Corps officers still formed a relatively small and exclusive group, most of whom knew each other. . . ." (p. 180) Only in Murray Green's piece on Hugh Knerr, however, does one get a significant glimpse of the competition and disagreement inevitable in any group. Were the Air Corps officers of the twenties and thirties as unified in outlook as they appear in this book? Were there competitive cliques? Were the mavericks and iconoclasts run off? Claire Chennault certainly felt run off for championing pursuit aviation against the claims of the strategic bombing advocates. (See Martha Byrd, Chennault: *Giving Wings to the Tiger* [Tuscaloosa, Ala.: University of Alabama Press, 1987], 60, 62, and 101.) The role of Harold George as the "Apostle of Air Power" because of his work at the Air Corps Tactical School and his part in the writing of "Air War Plans Division—Plan No. 1" (AWPD-1), related here by his subordinate and friend Haywood Hansell, has been told by the same author elsewhere. (See Haywood S. Hansell, Jr., *The Strategic Air War Against Germany and Japan: A Memoir* [Washington, D.C.: Office of Air Force History, 1986] and *The Air Plan that Defeated Hitler* [Atlanta, Ga.: Higgins-McArthur/Longino and Porter, Inc., 1972].) A slight compression of that story to permit more than a one-page summary of George's contribution as the World War II commander of the Air Transport Command would have improved the book.

This work is not, and was not designed to be, a survey history of the US Air Force. It also does



not provide a full picture of the 12 men presented. A much longer book would be required to include the details of their private lives.

The authors do, however, occasionally provide personal anecdotes to enliven their text. Donald Mrozek recounts the following exchange between Generals LeMay and Twining in August 1945 when Twining arrived to replace LeMay as commander of Twentieth Air Force:

LeMay: "What in hell are you doing here, Nate?"

Twining: "If you don't know, Curt, it's too late."

Mrozek's source for this exchange is the oral history interview of Twining held at the Columbia University Oral History Project.

This anecdote illustrates one of the characteristics of oral history. The same words, with the names changed, in the LeMay-Twining exchange have been recounted as the exchange between Generals Hansell and LeMay when LeMay took over command of XXI Bomber Command in January 1945. Oral historians often find that various individuals recount identical lines as being used at different times and places. The words may have been used as recalled, or the participant, years later, may believe they were used because they would have been so effective and appropriate.

The book is laid out for the general Air Force reader. The editor includes 112 well-selected illustrations, which he has placed in the text at appropriate spots. At the end of each chapter is a short section on "Sources." It provides a guide to further reading for those interested. There are no footnotes or endnotes. In this reviewer's copy, unfortunately, the Government Printing Office binding is so shoddy that the pages started coming out before the first reading was complete.

*Makers of the United States Air Force* is good official history and partially fills a huge role in Air Force history. All Air Force professionals should read it to expand their understanding of their service. All of our professional military schools should use it immediately. Once a few cycles of students have read it, it should settle at one level to avoid repetition. That level should be Squadron Officer School. Read it—it's fun.

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**Nuclear Blackmail and Nuclear Balance** by Richard K. Betts. Washington, D.C. 20036: Brookings Institution Press, 1987, 240 pages, \$28.95 in hardback, \$10.95 in paperback.

I liked this book. Being an individual who normally would not pick up, much less read, a non-fiction book with this title, my first sentence is very complimentary. Those of you who read authors like Michener will understand when I say it took a while to warm to this book. In fact, the author's introductory chapter bewilders one with its self-diagnosing questions on the "what ifs" of nuclear blackmail. He also has a confusing habit of continually redefining the main theme of his book. I don't believe he is using the correct terminology when he refers to his main focus or main theme of the book. He is more often than not referring to an intrinsic part of the overall picture he is painting—the threat of nuclear weapon use and how political leaders perceived this threat over the past four decades.

The meat of the book, chapters 2 through 5, is interestingly assembled and nicely fitted together. He presents each blackmail case as a case study, an interesting way to present historical data. Case studies permit the novice to enjoy and understand the event, how it fits into history, and its significance. The case study also permits the author to weave the facts into a palatable story applying the political tone of the era. The author bases his categorization of lower risk and upper risk cases on his interpretation of the significance of their level of danger. His process of identifying the relative threat in his various case studies is seemingly set in concrete in chapter 2 but becomes fluid by chapter 5.

I felt very comfortable with the author's insights into the worlds of the various presidents. He seems to have a genuine understanding of both their political views and personal beliefs. While he uses this insight to develop the case studies, the only part lacking is the view from the other end of the barrel. Unlike a fictionalized account in which one can fabricate an answer or possible course of action, without an insider's knowledge of Moscow's true action and beliefs, it is difficult to draw complete conclusions about every incident the way our author does. He does a fine job in giving a factual accounting of the incidents as best we know it; however, you come away from the book with this small voice saying that we are the "bad guys" in this book. We are the ones drawing our guns first. The author readily admits that he does not have all the informa-

tion and that this fact can have an impact on how our reaction to the various events/crises would be tempered. This admission does not deter him, however, from pointing the blame at the United States.

The author ends the book by looking to the future and the likelihood of future nuclear coercion. He feels that because of parity, future nuclear threats should be minimal or non-existent. He discusses a number of possibilities that would help the world avoid a nuclear show-down. One of the possibilities he discounts as only appealing to "a political minority" is the United States becoming the lead nuclear power again. I don't agree that this idea appeals to only a political minority. I believe most Americans would feel most comfortable with being in the lead again. Allow me to make one final observation. Perhaps I am not the individual to whom his book is targeted; however, if the purpose of the book is to inform and make a couple of bucks, I'd drop a couple of the 10-dollar words and not begin sentences with the word *and*.

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**The Future of Air Power** by Neville Brown. London: Croom Helm, 1986, 309 pages, \$27.50 hardback.

Any attempt to link the past, present, and future of air power in technical, tactical, technological, psychological, and strategic terms must result in either a reckless jumble of nonsequiturs or a stunning achievement. With Neville Brown's *The Future of Air Power*, the result is unquestionably the latter.

This is a highly readable, fascinating account of a subject of near overwhelming proportions. Well documented and splendidly developed, Brown's book reviews the history, present status, and possible—if not likely—future of air power, particularly in light of the technological dimension. *The Future of Air Power* devotes attention to electronic warfare, airfield vulnerability, the balance in deterrence between manned aircraft and ballistic missiles, geography, surprise attack, the continued importance of human factors, and the long gestation period for new technology.

Brown, professor in International Security Affairs, University of Birmingham (England), looks at both Western and Soviet air doctrines and especially how they are influenced by the endless

oscillation between offense and defense, between "stealth" and "gotcha." It is in the area of "novel technology" that *The Future of Air Power* is most captivating and germane. Working from F. W. Lanchester's Square Law (developed in 1916)—a marginal increase in number is liable to be more consequential than a marginal gain in quality—Brown warns that the West's long-vaunted technological edge may not eternally tip the balance away from Soviet numbers. However "belated" Soviet imitation of Western high technology may be—and Brown scarcely credits Soviet R&D with even marginal innovation—profound differences in priorities provide the Soviets with a longer term opportunity for taking advantage of new technologies than the West enjoys. Technology, therefore, tends to be applied in military terms faster in the Soviet Union than in the West. Assuming the Soviets are less constrained by competing priorities than in the West, getting things off the drawing boards faster—and in larger numbers—could result in a cumulative Western catastrophe.

Fortunately, however, Lanchester's Square Law is reduced in application by the scientific magic of the sigmoid, or S-curve, which refers to the progressive acceleration and retardation of improvements resulting from a given technological evolution. Thus, new genres of air weaponry tend to mature slowly and unsteadily. For example, the variable-geometry wing, made famous in 1964 by the F-111, was actually patented in France in 1890 (13 years before the Wright Flyer) and extensively studied in a wind tunnel by the late 1940s. Similarly, cruise missiles may have "come of age" in the 1970s but they date to the 1920s and were seriously pursued in the 1940s (in two particularly famous versions—manned, the Japanese Kamikaze, and unmanned, the German V-1). More commonplace examples include radar, jet propulsion, and the helicopter.

Almost as fascinating is Brown's chapter on economy and availability versus exotic capability. Here unfolds the synergistic complication of spellbindingly wondrous—and spellbindingly expensive—technologies. Alas, however, a wondrous "edge" doesn't stay sharp very long any more, and it may be readily nullified by an equally wondrous—and occasionally simple and inexpensive—counter. Thus, a look-down, shoot-down aircraft made of miracle materials, packed with black boxes, computers, IFFs, and coated with multiple layers of radar-proof paint may still be brought down by rifle bullets. Ad-

ditionally, how much added capability do we buy for every extra dollar we spend? Doubling the cost seldom doubles the capability. To be sure, significant increases in expenditure tend to provide only marginal increases in capability. For Brown, this is merely a fact of life and one that must be meshed with what we can or are willing to afford. Evaluated in light of the Square Law, five items of reasonable capability at a cost of 2X each might be better—and certainly far cheaper—than three of slightly superior capability at a cost of 4X each.

For Brown, nothing about aviation's future is simple. Advances and counteradvances complicate exceedingly complex issues to a point of near hopelessness. Also complicating is time. Just as the time for an innovation going from cutting edge to obsolescence is now compressed, time likely will be compressed in an East-West war, Brown believes. Whereas battle losses in previous conflicts may or may not have been decisive at any given moment, they become increasingly critical the shorter the war. Therefore, mundane features such as airfield vulnerability, tactics, geography, weather, and human factors (fatigue, skill, motivation, valor) become all the more vital.

Aircraft need not be destroyed, only damaged; aircrews not killed, just wounded; and runways not demolished, only cratered to achieve profound tactical advantage. Less-than-perfect destruction may be as useful—and much easier to achieve (especially for the side with the advantage in numbers). Turning to the weather for an example, Brown suggests that 10 or 15 percent of missions canceled or reduced in effectiveness by poor weather may not be decisive in operations lasting months or years, but they may lose the battle, campaign, and war when the time from start to finish is weeks.

Accordingly, the historic capabilities of air power—to achieve surprise, to mass—are magnified in a shorter, albeit more intense, conflict. Applying the Square Law, again superior numbers of relatively inferior aircraft, radars, anti-aircraft missiles, or aircrews may tip the balance away from smaller numbers of superior items.

Of all air power roles, none is more critical for future warfare and none more demanding of planners and commanders of all services than close air support. Yet for all his emphasis on tactical warfare and close air support, Brown is no advocate of merging air forces back with armies. But neither must air power be completely divorced from land and sea power. More than ever

before, the three arms—land, sea, and air—must work together.

The future always asks more questions than it answers and Brown's book is no exception. But if questions about the future cannot be answered readily, at least asking them can help prepare us for what we might otherwise inadequately anticipate. *The Future of Air Power* provides a global and long-range look at a military dimension for which truly "the sky's no limit." This is a work to learn from and to enjoy. Rare indeed.

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SHAPE, Belgium

**Arms Control and the Atlantic Community** by Werner J. Feld. New York 10010: Praeger Publishers, 1987, 192 pages, \$35.95 hardback.

Completed June 1986, published 1987, this slim volume is a salutary example of the unexpected stalking not just the unwary, but even the best prepared.

Werner Feld's opening premise is that the Chernobyl disaster should serve to focus all nations' attention on the need for a responsible approach to arms reductions, especially nuclear. The author's preface regrets lack of progress on nuclear weapons reduction, claiming "we must do better in our arms control efforts" if we "want to avoid future Chernobyls." Leaving aside this not entirely helpful confusion of politico-military procedure and civilian industrial incompetence, one must still sympathize with an author whose researches led him to his entirely reasonable assessment of lack of movement in East-West discussions. Within months of publication, we now know, there was simply dramatic forward movement. The December 1987 Washington INF accord will—if ratified—remove considerable numbers of nuclear-delivery vehicles from the inventories of both East and West.

But Feld's unfortunate timing is our gain. We can dip into his book with the benefit of hindsight. The approximately 100 pages of text (another 40 contain a glossary, list of acronyms, and the text of the 1979 SALT II Treaty) open with a review of arms control negotiations since SALT II: nuclear, chemical, and conventional. Then Feld examines the history of the interplay between the US and the European NATO partners before assessing prospects for arms control in the second Reagan administration. Here again, pursuing his principal theme of European interests, he reflects on the possible spectrum of US-

European interaction, and its influence on the chances of creating effective détente through arms control. The book closes by reviewing more recent events (of 1986) and examining scenarios for the future, looking particularly at ways to develop a common "European" defense policy. The author's bottom line is that the youth of today can plan for a meaningful future only if there is an end to the arms race and, in particular, if they can then live in a nuclear-free world.

It is debatable whether such a world is attainable, or indeed desirable. The process of scientific discovery does not lend itself to reversal. Nuclear know-how is here forever, like it or not. But a world with considerably reduced nuclear stockpiles, with stability in the conventional confrontation, is a worthwhile target. It has been the stated aim of NATO's defense policy since 1949. However, it has always been clear that arms control, aimed at reducing manpower and weapons, could not be just an end in itself. It is a complement, a vital adjunct, to the search for political stability.

Feld's book thus has a sound approach in dealing not only with arms control efforts but also with the political interplay both between NATO nations themselves and between East and West. Some editorial confusions mar the presentation of historical data: the opening chapter, on negotiating history, takes the reader up to early 1986. The final chapter has details from later that year (later, in fact, than when the author signed his preface). That minor irritant does not devalue the overall survey. The central chapters are comprehensive in coverage of European interests, especially in unraveling the complex threads of European attitudes to SDI. The evolution of US nuclear arms control policy is well documented.

No doubt many have had their attention drawn to arms control by the December 1987 Washington ceremony. Feld's book—and especially his final chapter, written as the prospects for such a ceremony were still far from bright—is a readable and useful survey of recent events in the processes of arms control. Those processes, to quote Feld, are usually "glacial" in their slowness. But 1987, the year after he finished his book, has seen remarkable events, not just in the nuclear arena. In February the 23 NATO and Warsaw Pact nations opened discussions in Vienna which should lead to new negotiations on conventional stability across the whole of Europe. In the closing months of 1987, teams of Eastern and Western military inspectors were implementing the terms of the Stock-

holm Conference on Disarmament in Europe. Who would have believed it possible for a US Army colonel and his colleagues to move freely around and photograph a Soviet exercise near Minsk, having demanded that right of inspection just 36 hours earlier?

Arms control is here to stay. Any newly awakened interest will doubtless be stimulated by more of such surprises in the future. Feld's study provides a competent introduction to the topic.

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**Creating Strategic Vision: Long-Range Planning for National Security** by Perry M. Smith et al., Washington, D.C. 20319: National Defense University Press, 1987, 133 pages, \$3.25 paperback.

When my wife saw this book she asked what it was about. When I told her it dealt with planning 10 to 20 years into the future, she laughed and said, "They can't even plan what you're doing next week. How can they expect to do anything like that?" Certainly, any type of planning involves a degree of forecasting about the future. The further ahead you plan, the more forecasting you must do.

*Creating Strategic Vision* is a collection of five essays dealing with long-range planning. The authors discuss the methods of forecasting and give us an example of one in action: alternative futures.

This is an important book. In the post-Reagan-buildup period Congress will be cutting the defense budget to help deal with the deficit. We can't afford to buy every item available, so our acquisitions must have some type of direction—a plan. This book is about making such a plan.

The first essay, by Maj Gen Perry M. Smith, USAF, Retired, is an excellent introduction and overview of long-range planning. According to General Smith, the key to long-range planning is freeing ourselves of restrictive thinking. One of the best methods to accomplish this is alternative futures. As Smith puts it, "By considering a world beyond the year 2000 when the Soviet Union might no longer be a superpower or when the United States might be facing one or more high-technology military threats or when the international economic system has collapsed or when a significant number of terrorist groups possess suitcase-sized nuclear weapons, the



planner might find avenues of creative inquiry." (p. 4)

General Smith stresses two other important points. First, the future is not beyond our control. Second, a strong commitment from the leader is essential. One of the obstacles to long-range planning is determinism—believing the future is determined by forces outside our control. We can influence the future, and our tool is long-range planning. By establishing our objectives and our plan, we can make policy decisions and acquisition decisions designed to make our vision of the future come true. Maybe we can't totally design and build the future, but we can shape a part of it in our favor. To do this, we've got to have strong commitment from the leader of our organization. Without that commitment and support, long-range planning will never work.

The second essay, by Col Jerrold P. Allen, USAF, is a comparison of long-range planning in four US government agencies—the Navy, the Federal Emergency Management Agency (FEMA), NASA, and the Air Force.

According to Colonel Allen, the Navy began with a six-month study of business strategic planning and found what it thought were the necessary parts of a strategic planning program. By far the most important part was active participation by the key leaders, but unfortunately this part was lacking in the Navy's effort. Without the support of the Navy's leadership, its long-range planning organization withered on the vine and was disbanded in June of 1982.

FEMA's experience offers another example of noninterest by key leadership. This resulted in a long-range planning program Allen calls virtually nonexistent.

The major success story of long-range planning is NASA. With strong, active participation by its leadership NASA ran three major programs—Mercury, Gemini, and Apollo—along with a host of unmanned explorations in the span of one decade, culminating in manned landings on the moon. Until the *Challenger* disaster, space shuttle flights had almost become routine. As Allen puts it, "Despite the *Challenger* disaster and its current difficulties, NASA is the government's leader in the successful use of long-range planning systems." (p. 30)

The Air Force began its long-range planning effort in 1978 and has since institutionalized the process. Colonel Allen describes the formal process in great detail. So far, no judgment can be made on the success or failure of this program,

other than that it's still alive and appears to be effective.

The next essay, written by Col John H. Stewart II, USAF, is an explanation of the nuts and bolts of long-range planning methods. Colonel Stewart describes alternative futures and distinguishes between predictions and projections. A prediction is an idea or opinion about the future, and a projection is an extrapolation from known data based on valid assumptions and current trends.

Colonel Stewart also goes into long-range planning models, including the Futures Group's strategy formulation process, William Ascher and William Overholt's strategic planning model, and the Air Force's force structure development model. He discusses how each model functions, points out key parts of each, and speaks to their strengths and weaknesses.

Another part of Colonel Stewart's essay explains alternative futures. Stewart probes deeply into alternative futures methods, discussing trend extrapolation, simulation modeling, cross-impact matrix analysis, and the Delphi technique. Once again, he tells us not only how each works but also where they're most effective and where they're least effective.

There are also two methods not as grounded in scientific method as the others: expert judgment and genius forecasting. Although more intuitive than the others these methods are every bit as valid. Expert judgment is the judgment of a person based on extensive expertise in the area in question. According to Stewart, "In virtually all future-oriented work, Expert Judgment is the link between the real world and methodologies which would otherwise be sterile." (p. 80) Genius forecasting is more of a vision springing forth from the mind of a so-called Renaissance Person. Colonel Stewart identifies such figures as Isaac Asimov and Herman Kahn as examples. As the author says, though, "The credibility of Genius Forecasting relies almost totally on the credibility of the person doing it," and our Renaissance people "are in short supply." (p. 81)

The final essay, written by Dr F. Douglas Whitehouse, is a case study of how to do strategic planning. Doctor Whitehouse reviews how to set national objectives based on national values and how to project future environments. These environments are based on what we know of past and current trends, events, and patterns of interaction. Next, Doctor Whitehouse discusses alternative strategies to match the different environments—including a hedging strategy



for use if unforeseen circumstances arise.

The second half of Whitehouse's essay is an example of setting US strategy to cope with two alternative Soviet futures: one where the Soviet Union is weakened, and the other with an economically and militarily strong Soviet Union. He stresses the need for a US strategy to encourage the first outcome and to discourage the latter, then he shows us how much a strategy might evolve.

This book serves as an excellent introduction to long-range planning. For such a small book it's packed with information. From why we should plan, to the methods of planning, to an example of long-range planning, this is a well-put-together addition to every professional's bookshelf.

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**A Soldier's Disgrace** by Don J. Synder. Peterborough, New Hampshire 03458: Yankee Publishing, 1987, 254 pages, \$15.95 hardback.

On 3 November 1955 a jury of 10 United States Army officers, convened as members of a general court-martial, voted to convict Maj Ronald E. Alley, a US Army Reserve officer on extended active duty, of multiple counts of unlawful communication with the enemy while a prisoner of the North Koreans. They also recommended a sentence of dismissal from the service, forfeiture of all pay and allowances, and 10 years confinement. This sentence was affirmed upon review. Major Alley thus became the only US military officer in this century actually convicted and sentenced to prison for collaborating with the enemy while a prisoner of war.

The author attempts to show that the conviction of Major Alley was improper; that he was in fact guilty of no conduct that would warrant conviction on the charges; and that his actions as a prisoner, while perhaps not strictly conforming to accepted practice, were justified under the unique circumstances. The author further argues that, in any event, Major Alley's conduct as a prisoner was no worse than that of many other officers who were not prosecuted or convicted. To single him out for punishment was manifestly unfair.

The basic thesis of the book is that the Army needed a scapegoat; that for various reasons, which are detailed, Major Alley was a candidate; and that the Army, eager to deflect criticism of

the quality and fidelity of its officer corps, conspired to build a case against him. According to Synder, the Army used questionable and unreliable evidence, pressured prosecution witnesses to ensure favorable testimony, suppressed evidence favorable to the accused, and attempted to intimidate witnesses favorable to the defense. Synder also alleges that command influence was present and evident to members of the court.

Synder builds a *prima facie* case for the proposition that Ronald Alley was unfairly punished. Unfortunately, he does not go beyond this initial showing. This at least seemed to be the opinion of a majority of the Army Board for Correction of Military Records, which reviewed Synder's evidence in 1982 and ruled that the court-martial decision had been "manifestly correct." Synder does not accept this decision and apparently feels that the Army is still practicing a "cover-up." However, other than a generalized belief that Army officials do not want to admit that the military justice system could have erred, he does not advance a credible motivation for a deliberate cover-up of events which occurred over three decades ago.

Ronald Alley died in 1978. He is thus past caring whether his honor is vindicated. But his widow and his children still live, and the tragedy of this story is that it appears from this account that it may have indeed been possible to prove that Alley was denied a fair trial. Synder's account of the hearing before the Army Board in 1982 reveals that neither Synder nor the lawyer who was representing Alley's family—apparently on a *pro bono* basis—was properly prepared to present the case. The vote was close, three to two. Had the evidence been better presented, in standard legal form with sworn statements and affidavits, it might have proved more persuasive.

These comments are not meant to demean Synder's considerable efforts to right what he perceives, perhaps correctly, as a terrible injustice. His documentation and assemblage of the facts may be adequate by journalistic standards, but as presented in his book, they do not meet the standard of proof ordinarily required to overturn a court verdict. Nevertheless, the book will convince many that Major Alley was unfairly treated by the Army, that he was innocent of the charges, and that he indeed was a man of honor, rather than a traitor. They may be right.

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